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GS101:

# Introduction to GeoSync




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(Version 3.0)



These lessons show you the basic GeoSync tools and functions for viewing a GIS map and its associated data. After reviewing the Basics of GeoSync, you will learn to use the GeoSync tools for customizing the map, querying the map, road/address model tools and the basic printing tools. If you have questions about the GeoSync program or any of the information covered in this lesson, please ask for help.

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## I. **GeoSync and GIS: An Introduction**

**Q:** What is GIS?

**A:** GIS is an acronym for **Geographic Information System** defined as:

1.) an organized collection of spatially referenced information. 2.) an organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.

**Q:** Who uses GIS?

**A:** GIS is useful to anyone desiring to interface their information geographically.

**Q:** What comprises a GIS?

**A:** While a paper map and printed report could qualify as a GIS, typically, when we talk about GIS in a modern technological context (the concept and term GIS has evolved intimately with computer technology in the past few decades) we include the following:

- Computer system
- A GIS software application (GeoSync, ArcGIS, ArcView, AutoCAD Map)
- Geographic information files (Shapefiles, Coverages, CADD files, GeoDatabases) which store spatial information about mapped features and often store attribute data about those features
- External databases (Microsoft Access, Sequel Server)
- Background imagery (aerial photography, scanned topographic and other maps)
- Images linked to map features (photos, scanned notes, plats, drawings, sketches, documents, etc...)
- Virtually any information storable on a computer can be linked to a GIS

**Q:** Where does the information come from?

**A:** Different government agencies and private entities manage datasets for their own use which is often shared and integrated into a GIS. Some examples of datasets (and their owners) include:

- Roads Inventory (Roads department)
- Tax Roll (Property Valuation office)
- Deeds and Mortgages (County Clerk)
- Master Street Address Guide (911, Emergency Services, Phone company)
- Occupancy Data (911, Emergency Services)
- Utility Customer Database (Water, Sewer, Gas, Electric, Cable, Phone)
- Census Data (State and Federal Government)



- School Enrollment (School System)
- System Inventory (Utilities, etc...)

The geographic portion of the information typically comes from:




- GPS data collection
- Planimetric information
- Traditional Surveying
- Remote Sensing

**Q:** How do we bring all this information together in a useful manner?

**A:** We use the GIS application **GeoSync™** to manage a GIS. GeoSync allows us to build and maintain, view and edit, obtain and utilize geographic information.

GeoSync reads and writes ESRI (makers of ArcView) **Shapefiles**. Each Shapefile appears as a layer in GeoSync. A Shapefile is actually comprised of 5 files with the extensions **.shp**, **.dbf**, **.shx**, **.sbn**, **.sbx**.

Each Shapefile layer is dedicated to a single feature type such as road centerlines, parcel boundaries, water meters, buildings, soil types, etc... A Shapefile layer in GeoSync is configured and maintained to track the feature type as either a

**Point** , **Line** , or **Polygon** . For example, a road centerline or waterline layer would typically be defined as a line, a parcel boundary a polygon, and something relatively small such as a water meter or bus-stop location as a point.

As an example, a road centerline layer, a line layer, would have **ROADS.shp**, **ROADS.shx**, **ROADS.dbf**, **ROADS.sbn**, and **ROADS.sbx** files and would appear in GeoSync simply as **ROADS**.

While GeoSync uses Shapefiles to store geographic information, significant additional information may be stored and linked to the map, i.e. database tables and image files (as discussed earlier in this introduction).

Lastly, GeoSync utilizes a Microsoft Access **.mdb** file referred to as **Project File**, to manage the various sources of information comprising a GeoSync managed GIS.

For more information about GIS, see [www.mapsync.com](http://www.mapsync.com)  
[www.esri.com](http://www.esri.com)  
[www.opengis.org](http://www.opengis.org)



## II. GETTING STARTED

### Starting the Program

1. There are two ways to start the GeoSync program.

Double click the **GeoSync®** Icon on the Desktop.

-OR-

Click the Windows **Start** button, select **Programs**, then select the **GeoSync® GIS Software V3** program group and click the **GeoSync V3** program button.



GeoSync V3.Ink

2. Upon starting the GeoSync program the “Welcome – Login” dialog opens prompting you for a **User Name** and **Password**.

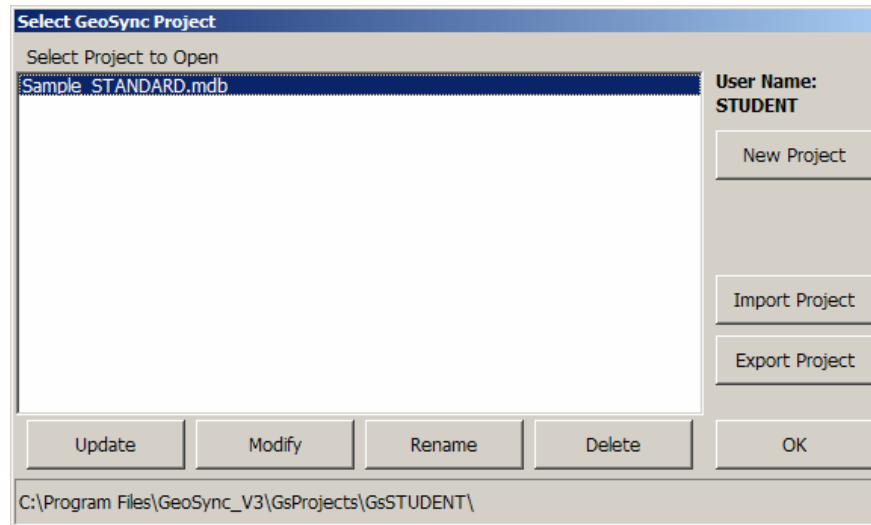


3. Click in the *User Name:* box and type in a valid name. For this class use **ADMIN** as the user name.
4. Click in the *Password:* box and type in the password for that user. For this class use **ADMIN** as the password.
5. Click the *OK* button.



6. Next the “Select GeoSync Project” dialog opens.
7. Click on a project file in the “*Select Project to Open*” box (for this class we will be using Sample\_STANDARD.mdb) then click *OK*.

Note: See Project Files below for an explanation of what project files are and what they do.



## Project Files

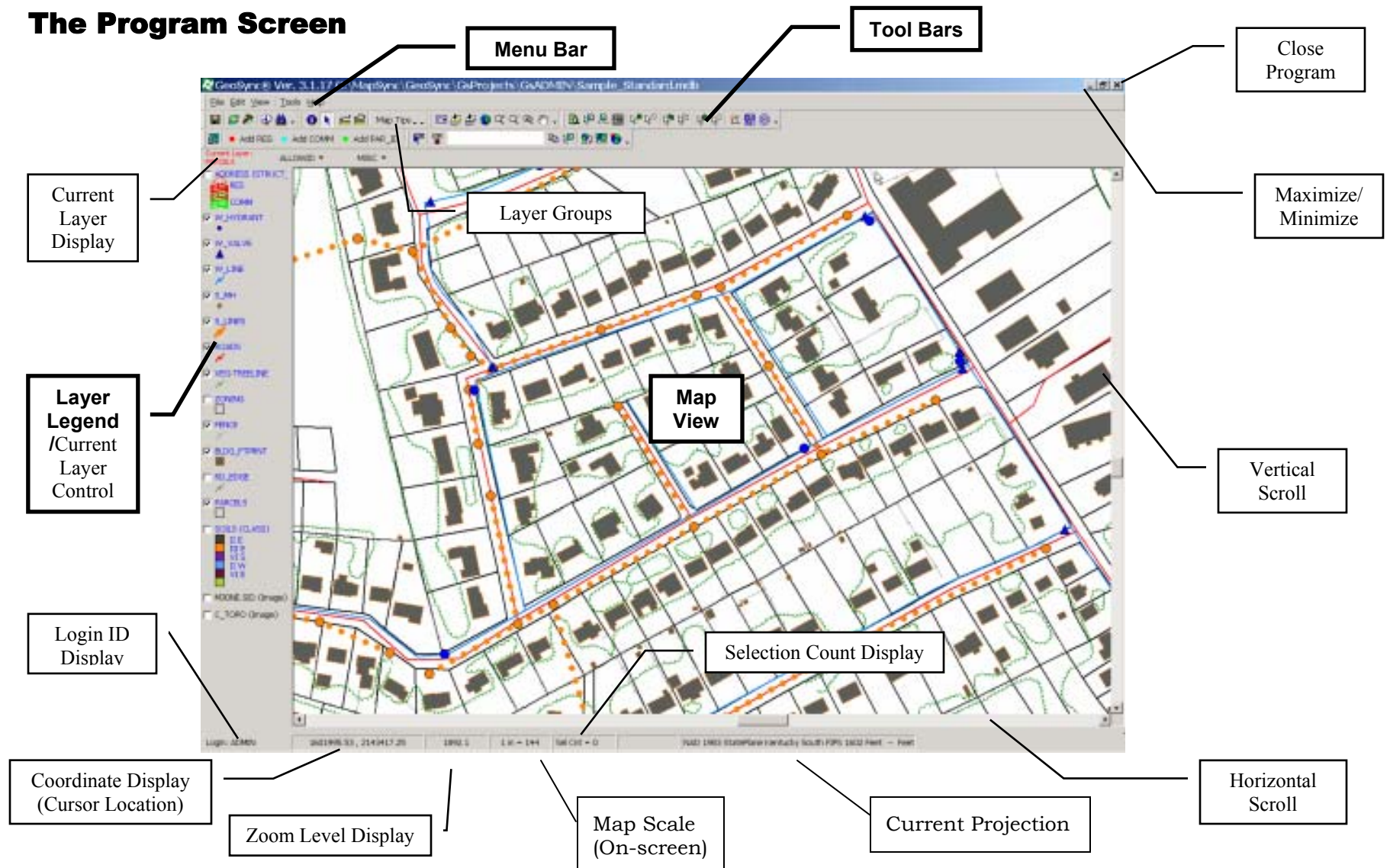
A GeoSync Project File is a Microsoft Access Database file (.dbf) which stores information required to bring the various data sources (shapefiles, databases, images) of a GIS together. The project also stores settings which determine how information is used and displayed.

### Project File Stores:

1. A list of all layers (shapefiles) and their file paths.
2. A list of all external data sources (databases) and their file paths.
3. Settings such as colors, symbol types, and other attributes which determine how information is displayed on the map.
4. A list of Map Tips and Quick Searches.



## The Program Screen







### III. Viewing the Map

#### Using the Zoom Tools

To zoom in and out of map areas, pan, and return to the base map view:

##### The *Zoom Window* Tool

**Increase map magnification. Select an area to zoom by window.**

1. Click the *Zoom Window* tool.
2. Click, hold, and drag a rectangle around the area of the map you would like to zoom in on; when you release the mouse button the area is magnified.
3. Use the *Zoom Window* tool to zoom into the mapped area on the screen (the area on the map which has colored map features).
4. Repeat and zoom into a smaller area so that more features become visible on the map view.
5. Zoom into a particular feature on the map view.

##### The *Zoom Out* Tool

**Decrease map magnification.**

1. Click the *Zoom Out* tool.
2. Click on the map view to *Zoom Out*. The *Map View Width* and *Map Scale* double with each click.
3. Use the *Zoom Out* tool a few more times by clicking on the map view.

##### The *Zoom Previous* Tool

**Return the map view to the previous view.**

1. Click the *Zoom Previous* tool.
2. Click the *Zoom Previous* tool repeatedly and notice the map view displays previous zoom views.

##### The *Pan* Tool

**Move to different places on the map without changing map scale.**

1. Click the *Pan* tool.
2. Move the hand icon onto the map window, click, and hold. The hand “grabs” the map and moves it in the direction you move the mouse; when you release the mouse button the map view will refresh.

##### The *Zoom Layer* Tool

**Zoom the map view so all features on a particular layer are visible.**

1. Use the *Zoom Layer* tool to extend the map window to show all the features contained in the Current Layer.
2. Click on *W\_METER* in the *Layer Legend* to make it your Current Layer.
3. Click the *Zoom Layer* tool.





## **The *Zoom Extents* Tool**

**Zoom so all features on the map view are visible.**

1. Click *Zoom Extents* the full view of the base map returns.
2. Use the *Zoom Window* to zoom into an area on the map.
3. Click on the *Zoom Extents* tool.

### **Exercise:**

1. Zoom to a scale of roughly 1in=300. Refer to the scale display at the bottom of the GeoSync Main Screen.
2. Use any zoom tools necessary so that a water valve, fire hydrant, and RES (TRIM) or ADDRESS (Standard) point are visible on the map view at a map scale of less than 1in=50. Refer to the Layer Legend on the left for feature symbols.

## **IV. Customizing the View**

### ***CHANGING LAYER VISIBILITY***

**Change the map view by turning layers on or off:**

1. In the *Layer Legend*, click the checkmarks off and on for any of the Layers.
2. Click the *Refresh* tool icon; the map displays with layers visible or not depending on if their box is checked on.
3. Try turning other layers on or off.

### **Viewing Background Images**

Graphic images such as Aerial Photos and Digital Topographic maps can be viewed as a background to the mapping. Although background images can be a good source of visual information, they have no associated data.

Background Images are treated as layers and may be turned on or off in the same manner.

NOTE: Changes made for the *Layer Legend* are not permanent unless the project is saved.





## V. Getting Information


### THE IDENTIFY TOOL

The Identify tool displays all of the Attribute Data associated with a feature on the current layer and information from external data sources that may be attached to the layer:


#### Use the *Identify* tool to view Feature Attribute Data:

1. Zoom in on the subdivision at the top center of the map.
2. Select *PARCELS* from the *Layer Legend* to make it the current layer (any feature you wish to Identify must be set to the Current Layer).
3. Click on the *Identify*  tool.
4. Click on a parcel feature, anywhere in the interior of the polygon; the TABLE of information about that parcel displays.
5. Click on a different parcel. The record for the newly selected parcel replaces the previous.
6. Dock (and undock) the *Identify Record* dialog by clicking on the *Dock*  button on the *Identify Record* toolbar.


#### View linked images:

1. Click on RES in the *Layer Legend* to make that layer current.
2. Use zoom tools to find a RES point on the map view.
3. Use the *Identify* tool and click on a RES point.
4. In the *Identify Record* dialog click in the *Photo\_ID* field. A browse box appears.  Click on the Browse Box.
5. A preview of the image appears. To view the larger image click on the preview sized image.


#### View External Data:

1. Identify a RES point.
2. Click on the MAIN, CHAR, PHOTO, SKETCH, and TAX tabs in the *Identify Record* dialog.
3. Click on the PHOTO tab. Click on the camera  button on the *Identify Record* toolbar. The GeoSync Imager appears.
4. Close the *GeoSync Imager* by clicking on the X in it's upper right corner.

#### Edit the Feature Attribute Data of a particular feature:

1. Make the W\_Line layer current.
2. Identify a length of Waterline on the map view.
3. Double-click in the the *Size* field in the *Identify Record* dialog.
4. Enter a different value in the *Size* field.
5. Click on the Save Edits  button on the *Identify Record* toolbar. This must be done in order to save any changes made to data when using the *Identify* tool.



6. Click on the  button to close the *Identify* dialog.

**Exercise:**

1. Zoom Extents.
2. Zoom into the neighborhood near the north central part of the map.
3. Identify a feature on the ROADS Layer.
4. What is the length of that road according to its record?

## MAP TIPS

Map Tips are used to quickly display one piece of information about a feature on the map. They can be created for any data field contained in any layer in the map. Unlike Identify, a layer does not have to be set current for its Map Tip to function.

**Using Maptips**

1. From the toolbar, click on *Map Tips* and then select *Parcel ID* from the drop-down list (alternately, right click in the map view to access Map Tips).
2. Move the pointer over a parcel in the map view; the parcels Par ID appears.
3. Move the pointer over other parcels to view their Par IDs.
4. Select the another Map Tip. Move the pointer to the appropriate features on the map view.
5. Repeat for each Map Tip.

**Exercise 1:**

1. Zoom Extents.
2. Retrieve stored view entitled *Parcels*
3. Zoom to parcels on Map 045. (Consult Layer Legend)
4. Activate the Acreage Map Tip.
5. Find a parcel greater than 20 acres.
6. Find a parcel with an acreage of 5.24.

**Exercise 2:**

1. Zoom Extents.
2. Zoom to parcels on Map 054-01.
3. Activate the Road Name Map Tip.
4. Using the Road Name Map Tip, find Forest Ave and Deepwood Dr. Find the Intersection. (Hint: South-central side of the Red parcel area.)
5. Using the Identify tool, find and Identify the Fire Hydrant at the intersection. (Hint: Remember your current layer!)
6. What is the Hyd\_ID of the hydrant?
7. What is the Elevation of the hydrant?





## ***SELECT FEATURES AND VIEW SELECTIONS ON THE MAP***

There are a number of ways to select multiple features on a layer. These selection tools can be useful not only for viewing and printing information about multiple features but also for performing edit functions on the features.



### ***The Select Feature Tool***

#### **Select Features Individually.**

1. Set the layer containing features to be selected as the *Current Layer* (click on the layer in the *Layer Legend* or click on the layer name from the *ALLOWID* drop down list on the *Layer Groups* tool bar ).
2. Click the *Select Feature*  button from the *Tool Bar*.
3. Click on a map feature. The selected feature is highlighted.
4. Hold down the *Ctrl* key to select additional features if desired.
5. Click the *View Selection* button  to display a table of information about the selected features.
6. Close the *Selection Report* dialog by selecting the *File* menu and clicking *Close Form* or click the X in the upper right corner of the dialog.
7. To unselect the features, select the *View Menu* (or right click on the Map View) and click *Clear Selectio*


### ***The Select Window Tool***

#### **Select features by window. Features completely inside the window are selected.**

1. Set the layer containing features to be selected as the *Current Layer* (click on the layer in the *Layer Legend*).
2. Click the *SelectWindow* button  from the *Tool Bar*.
3. Click, hold, and drag a rectangle around the map features you would like to select; when you release the mouse button the features INSIDE of the window are selected and highlighted.
4. Click the *View Selection* button  to display a table of information about the selected features.
5. Close the *Selection Report* dialog by selecting the *File* menu and clicking *Close Form* or click the X in the upper right corner of the dialog.
6. To unselect the features, select the *View Menu* (or right click on the Map View) and click *Clear Selection*.

### ***The Select Crossing Window Tool***


#### **Select features by window. Features inside or crossing the window are selected.**

1. Set the layer containing features to be selected as the *Current Layer* (click on the layer in the *Layer Legend*).
2. Click the *Select Window Crossing* button  from the *Tool Bar*.
3. Click, hold, and drag a rectangle around the map features you would like to select; when you release the mouse button the features INSIDE of and CROSSING the window are selected and highlighted.




### **The *Select Polygon* Tool**

**Select features by Polygon. Features completely inside the polygon are selected.**

1. Set the layer containing features to be selected as the *Current Layer* (click on the layer in the *Layer Legend*).
2. Click the *SelectPolygon* button  from the *Tool Bar*.
3. Click at each corner (or vertex) of the polygon to be created around the map features you would like to select; double click on the final corner (or vertex) of the polygon area and the features INSIDE of the polygon area are selected and highlighted.


### **The *Select Crossing Polygon* Tool**

**Select features by Polygon. Features completely inside or cross the polygon are selected.**

1. Set the layer containing features to be selected as the *Current Layer* (click on the layer in the *Layer Legend*).
2. Click the *SelectPolygonCrossing* button  from the *Tool Bar*.
3. Click at each corner (or vertex) of the polygon to be created around the map features you would like to select; double click on the final corner (or vertex) of the polygon area and the features INSIDE of and CROSSING the polygon area are selected and highlighted.


### **The *Select by Radius* Tool**

**Select features by user specified radius. Features completely inside the specified radius are selected.**

1. Set the layer containing features to be selected as the *Current Layer* (click on the layer in the *Layer Legend*).
2. Click the *Select by Radius* button  from the *Tool Bar*.
3. In the box provided, enter a desired radius. Features on the current layer falling entirely within the radius are selected.

### **The *Select by Radius Crossing* Tool**

**Select features by user specified radius. Features completely inside the specified radius are selected.**



1. Set the layer containing features to be selected as the *Current Layer* (click on the layer in the *Layer Legend*).
2. Click the *Select by Radius Crossing* button  from the *Tool Bar*.
3. In the box provided, enter a desired radius. Features on the current layer falling entirely within or crossing the radius are selected.

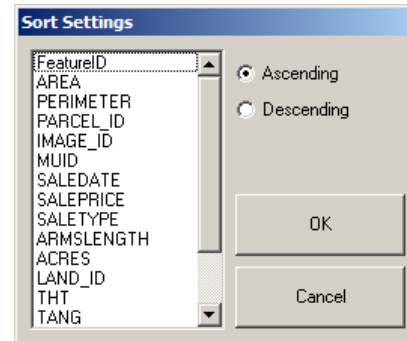


## More on Selection Reports

The Selection Report dialog displays attribute information and linked data for selected map features in tabular form. The displayed information can be sorted, printed, saved to an external file and edited. Features selected in the table can be used to re-select the features on the map.





### To Sort Data displayed in the Table

1. Use one of the selection tools to select multiple features in the *Map Display* then click the *View Selection* button  to view the data table in the *Selection Report* dialog.
2. Click the  Sort Button on the *Selection Report* dialog. The *Sort Settings* dialog opens.
3. Click on the data field name to be used for sorting.
4. Click on *Ascending* or *Descending* to set the order in which the table will be sorted.
5. Click the OK button. The Sort Settings dialog closes and the table is sorted by your specifications.





NOTE: A SELECTION REPORT CANNOT BE SORTED WHILE EDITING ITS CONTENTS.

### To Select Map Features from Table Records

1. Use one of the selection tools to select multiple features in the *Map Display* then click the *View Selection* button  to view the data table in the *Selection Report* dialog.
2. Click on a data record in the table to highlight it. You may select additional records by using the *Ctrl* or *Shift* keys.
3. Click on the *Map* button and then the  Select Map tool. The records selected from the table are now selected and highlighted in the *Map View*.
4. You may also zoom to the selected features on the map by clicking the *Map* button and then the  Zoom Selected tool.
5. To return to the original map features selection set, click the *Map* button and then the  Restore Selection tool.

### Using the Summation tool

The STATS tool provide statistical summation of the numeric (Long Integer and Double Precision) fields of a particular layer.



1. On the Selection Report toolbar, click the  Stats button.
2. Select columns to be summarized statistically and click the  button.
3. Optionally, under REPORT DESCRIPTION, enter a description to be included with a printed summation report.

### To Print Data from the Table

This subject is covered in Section VI "Printing From GeoSync".






### **To Save Table Data to an External File**

1. Use one of the selection tools to select multiple features in the *Map Display* then click the *View Selection* button  to view the data table with the *Selection Report* dialog.
2. Click the *File* menu and then the  *Save Grid* command. The *File / Folder Explorer* dialog opens.
3. Type in the name for the new file to be created, then use the folders display to browse to the folder where the file is to be stored.
4. Click the *Save As* button. The data displayed in the table is stored as a comma delimited spreadsheet file (.CSV). These files can be opened, sorted, edited and printed using a spreadsheet program (such as Microsoft Excel) or they can be imported into a text document for formal reports.

NOTE: EDITING THE .CSV FILES DOES NOT AFFECT THE DATA IN THE GEOSYNC MAPPING.

### **To Edit Data in the Table**

1. Use one of the selection tools to select multiple features in the *Map Display* then click the *View Selection* button  to view the data table with the *Selection Report* dialog.
2. Click the  *Edit Mode* button.
3. Click on a data field and type the new information or double click the field to change only parts of the existing data.
4. To save the changes to the table, click the  *Save Edits* button. Click the *Yes* button on the GeoSync Message "You are about to SAVE your changes. This process cannot be undone. Do you want to proceed?" to save the edits or the *No* button if do not wish to save the changes.







## ***MEASURING DISTANCES AND AREAS***

### ***The Measure Distance Tool***

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1. Zoom to the subdivision at the top center of the map.
2. Set *Map Tips* to *Road Name*.
3. From the *Toolbar*, click the *Measure Distance* button; the cursor becomes a pencil when moved back onto the map view.
4. Click once at the intersection of Neighborhood Dr and Northward Rd.
5. Move the pencil to the intersection of Neighborhood Dr and Cross St and double-click; the distance measured between the two points displays on the screen.
6. Use the *Measure Line*  tool again to measure the total length of Neighborhood Loop by clicking once for each turn in the road and double clicking at the end.
7. View the total length in feet and miles, as well as other information in the *Shape Properties* dialog.

### ***The Measure Area Tool***

1. Use the *Quick Search* tool to find and zoom to parcel number 054-01-00-026.00
2. Use the *Measure Area*  tool to measure the area of parcel, number 054-26. Click once near a corner of the parcel to begin, click once at each property corner, and double-click on the last corner to close the polygon and return a measure of the area.
3. View the Polygon Area in square feet and acres and Perimeter in feet and miles, as well as other information in the *Shape Properties* dialog.




## VI. Querying the map

### USING QUICK SEARCH

Quick Searches are designed to make frequent searches more convenient to perform. A quick search is set up to a query a particular field in a particular layer.

#### Using Quick Search

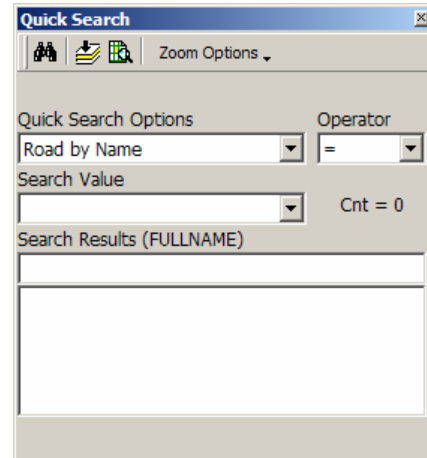
1. Activate  Quick Search tool. The Quick Search dialog opens.
2. Select desired Quick Search from drop down list.
3. Enter a search value or click on the down arrow in the Search Value text box and select a value from the list.
4. Select an *Operator*.

An operator is the action part of a query, performed on a set of feature attribute data values and applied criteria when querying...

- = : equal to
- < : less than
- > : greater than
- <> : not

Like : Searches for records that contain the search value anywhere within. For example, a Like search with 45 as the search value could produce results, 8450, 450, Hyd-45, etc.

Left : Requires that all results have the entire search value and allows results to contain anything else beyond it to the right. For example, with a search value of 45, the following would be valid results: 4530, 45b, 45.98 (but not 345, 2.45); with a search value of WEST the following would be valid: WESTLINE, WESTWOOD, WEST WAY (but not NORTHWEST, WILDWESTWOOD, etc).



5. Click the *Search* button.
6. The *Search Results* appear in the list box at the bottom of the dialog.

#### **Other Functions:**

- *Zoom Selected*: zoom to the selected feature(s) listed in the *Search Results* box.
- *View Selection*: Build and display a Selection Report based on the search results.

#### **Zoom Options:**

- *Auto Zm*: GeoSync will automatically zoom to the feature(s) returned by the search.
- *Marker*: GeoSync places a marker on the found features.



**Exercise 1:**

1. Find all parcels on Map 054 (Hint: Left operator)
2. Open the Selection Report to view records for parcels on Map 054.

**Exercise 2:**

1. Find all roads which begin with the letter W (Hint: Left operator).
2. Find a road in the Quick Search results list which comes to a dead end.
3. Identify or open the Selection Report for that road.

**Exercise 3:**

1. Find the parcels with an acreage of less than 1.

**Exercise 4:**

1. Use a QuickSearch to find Parcel 055-00-00-224.00.
2. Measure the area of parcel 055-00-00-224.00 and adjoining parcels.

**Exercise 5:**

1. Use a QuickSearch to find Parcel 055-00-00-048.00.
2. Locate the building on the parcel.
3. Find the shortest distance between a corner of the building to a road intersection.

**Exercise 6:**


1. Measure the distance, following the road centerlines, between the intersections of CARDINAL DR/WESTWOOD CT and CARDINAL DR/WESTPORT RD. (Hint: use QuickSearch and MapTips)

## ***USING SQL EXPRESSIONS***

**Perform simple (like Quick Searches) or complex (multi-field) queries.**

Simple searches performed frequently in GeoSync can be set up as a Quick Search. For infrequently performed queries or for queries involving multiple fields or ranges, use SQL.

**Create a simple expression:**

1. Set the layer to be searched as the *Current Layer*.
2. Activate the  SQL Expression tool dialog.
3. Choose a *Field* to query.
4. Choose an *Operator*.

An operator is the action part of a query, performed on a set of feature attribute data values and applied criteria when querying...

= : equal to

< : less than

<= : less than or equal to



- > : greater than
- >= : greater than or equal to
- <> : not

**Like** : Searches for records that contain the search value anywhere within. For example, a Like search with '%45%' as the search value could produce results, 8450, 450, Hyd-45, etc. Or, as another example, a search for '%CAR%' would produce the results CARDINAL DR and TOCAR ST.

NOTE: To perform a LIKE search, place a percent sign % on either side of the search value (inside the single quotation marks when searching a STRING field). Example expression: **FULLNAME Like '%CAR%'**


**Left** : Searches for records containing the search value at the beginning. For example, a LEFT search for 'CAR%' would produce the result CARDINAL DR but not TOCAR ST.

NOTE: To perform a LEFT search, place a percent sign % after the search value (inside single quotes when searching a STRING field). Sample expression: **FULLNAME Like 'CAR%'**

5. Enter a *Value* to search for. When querying a text field (STRING) put all search values in single quotes.
6. Select *Add* to create the expression.


### Create a Complex Expression:

A complex expression uses multiple values, either in one or multiple fields, in querying a layer. Each value searched on requires a complete expression joined to all other expressions with an AND or OR.

1. Set the layer to be searched as the *Current Layer*.
2. Activate the  *SQL Expression* tool dialog.
3. Choose a *Field* to query.
4. Choose an *Operator*.
5. Enter a *Value* to search for. When querying a text field (STRING) put all search values in single quotes.
6. Select *Add* to create the expression.
7. Manually enter the remaining portion of the expression. Use AND for exclusiveness (all found waterlines must be 6 inches AND be made of iron) and OR for inclusiveness (all found roads may be owned by the city OR the county).

Note: Expressions are kept for the duration of a GeoSync session. Click on the down arrow on the right side of the Current Expression text box to access expressions used previously. These expressions are lost when GeoSync is closed. For often used expressions, setup a Quick Search or copy and paste the expression from a text document.


### Select and execute an SQL expression:

1. Create an SQL Expression then select it from the list or select an existing SQL Expression.
2. Click the *Use Expression* box on the *Search Expression* dialog.
3. Click the  *Select Expression* tool button or open the *View* menu and click *Select Expression* to query the entire layer.



Note: To define the area to be queried geographically, use one of the group selection tools



to activate the search in lieu of  *Select Expression*.

4. The expression is activated and the layer features are selected and highlight on in the *Map View*.

**Exercise 1:**

Find all water lines between 2 and 8 inches in size (Hint: use > and <).

**Exercise 2:**

Find all Roads greater than 1000 feet in length.

**Exercise 3:**

Find Parcels on Map 055 (Hint: Left search on the PARCEL\_ID field) with an acreage of less than 1.

**Exercise 4:**

Find all Roads owned (Ownership) by either the COUNTY or STATE.



## VII. Printing from GeoSync

A brief introduction to printing reports and maps in GeoSync

### PRINTING REPORTS LOGS AND TABLES

The print commands for the *Identify* tool, the *Selection Report* and the *Layer Tools* utilize the “VideoSoft Data Reporter” print program.

The screenshot shows the VideoSoft Data Reporter application window with the title bar "VideoSoft Data Reporter - C:\Program Files\GeoSync\_V3\gsreports\external1.vrd". The application has a menu bar (File, View, Options, Help) and a toolbar (Design, Preview). The main window displays a report preview with three sections: DEED RUNNER, DIGITAL SUBMISSION, and DOQQ. Each section contains a table with columns for PARCEL\_ID, ACRES, and SALEPRICE. The DOQQ section is expanded, showing a list of parcels with their respective acreage and sale prices. A Layout Window is open on the right, showing a list of fields (ANNOSTRING, AREA, ARMSLENGTH, FeatureID, IMAGE\_ID, LAND\_ID, MUID, PERIMETER, SALEDATE, SALETYP, TANG, THT, XOFF, YOFF) and a list of groups (ACCURACY, PARCEL\_ID, ACRES, SALEPRICE). The Layout Window also has a Details section for the selected group.

PARCEL_ID	ACRES	SALEPRICE
054-1	0.32	76500
054-2	0.32	83000
054-3	0.36	84000

PARCEL_ID	ACRES	SALEPRICE
044-3001-002-00	0.36	78300

PARCEL_ID	ACRES	SALEPRICE
054-10	0.29	0
054-11	0.31	0
054-12	0.44	86900
054-13	0.35	90000
054-17	0.35	91500
054-18	0.35	80500
054-4	0.28	90000
054-5	0.42	92500
054-7	0.23	76500
054-8	0.22	80000
054-9	0.22	83500
075-1	0.28	72900
	0.36	91500
	0.27	0



1. Clicking on the Print button in one of the GeoSync tools that generates tables, reports or logs will start the “VideoSoft Data Reporter”.
2. In the Layout Window, click on the field names in the Fields box and drag them (one at a time) to either the Groups box or the Details box. The print layout will automatically preview as fields are added.
  - Groups – moving a data field into this box will sort the report by that field.
  - Details – moving data fields into this box displays the field values in the report.
3. After the desired fields have been added (moved) and the *Design* view is acceptable, open the *File* menu and click the *Print* command.

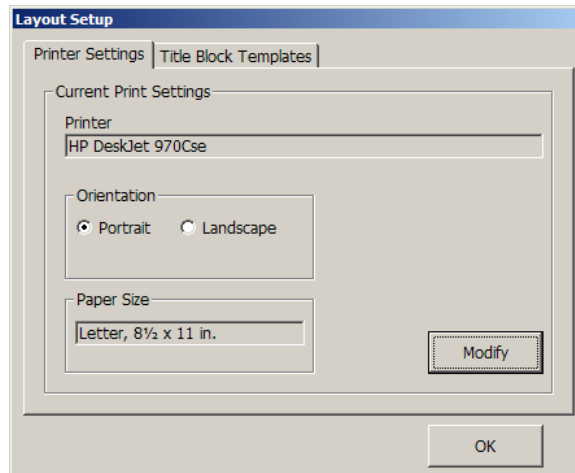


## LAYOUT VIEW

The GeoSync Layout View is equipped with multiple functions to allow for printing the Map View at varied scales and sheet sizes. This lesson provides basic information about Layout View. Detailed instructions and examples will be covered in the “GeoSync Printing and Annotation” class.

### To Print from the Layout View:

1. Zoom to the approximate limits of the mapping to be printed.
2. Open the View menu and click the *Layout View* command. The *Layout Setup* dialog opens.
3. Click on *Portrait* or *Landscape* in the *Orientation* box then click the *OK* button. GeoSync changes to *Layout View* mode.
4. It may be necessary to change the *Zoom Factor* to a lower number % to view the entire layout/page.
5. Change the *Map View* to the desired display of the mapping by:
  - A. Typing in a new *Scale* and pressing *Enter*.
  - B. Changing the *Border Size*.
  - C. Using the Zoom tools.
  - D. Turning layers ON or OFF with the *Layer Legend*.
6. Click the  Print button.
7. End the Layout View session by opening the *File* menu and clicking the  *Close Layout* command. GeoSync returns to standard operation mode.







## VIII. Exercises

### Exercise 1:

Find (Hint: SQL) and zoom to the fire hydrant with a **Hyd\_ID** (field) of J-16-17 (value).

What is the Elevation (ELEV) of the hydrant? \_\_\_\_\_

### Exercise 2:

1. Turn all layers off. (Hint: Right-click on MISC layer group under toolbar)
2. Turn ROADS, PARCELS, and W\_HYDRANT layers on.
3. Find and zoom to the parcel with a **Par\_ID** (field) of **054-00-00-037.00** (value).
4. Measure a straight line distance from the nearest corner of parcel 054-00-00-037.00 to a nearby fire hydrant.

What distance is the parcel from a nearby hydrant? \_\_\_\_\_

### Exercise 3:

Select several parcels and open the Selection Report.

## IX. Summary – Q & A